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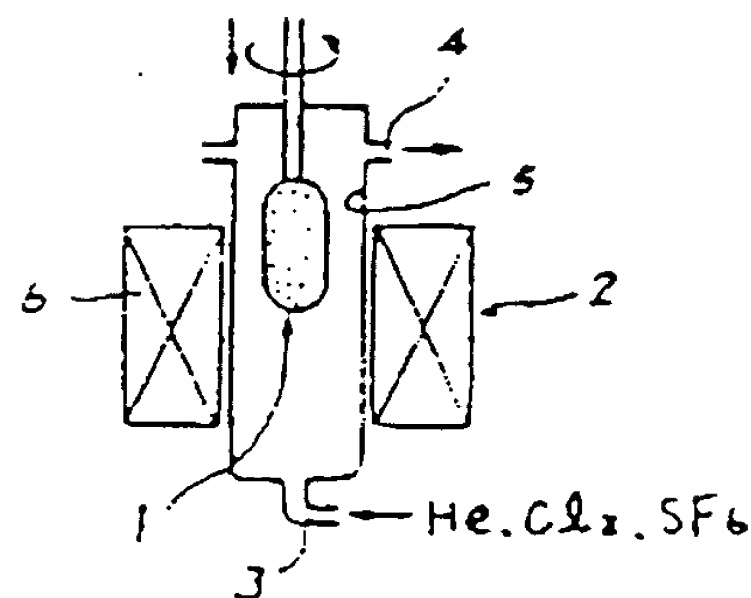
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TITLE : TRANSPARENT VITRIFICATION
METHOD OF POROUS GLASS BASE
MATERIAL



ABSTRACT : PURPOSE: To change fluorine content in the radius direction of a porous glass base material and to easily change the distribution of refractive index by controlling the conc. of fluorine-contg. gas contained in the atmosphere in case of subjecting the porous glass base material to transparent vitrification in the fluorine-contg. gas atmosphere.

CONSTITUTION: A porous glass base material 1 consisting of an accumulated material of a sooty fine glass grain is inserted to the inside of a reactor core pipe 5 and a fluorine-contg. gas (e.g. gaseous mixture of SF_6 , He and Cl_2) is introduced into the inside of the pipe 5. The base material 1 is heated by an electric furnace 2 in the fluorine-contg. gas atmosphere and fluorine is doped to the inside of the base material 1 while subjecting it to transparent vitrification. On this occasion, fluorine content in a range over the radius direction of the base material 1 is changed by controlling the concn. of the fluorine contg. gas contained in the atmosphere and the distribution of refractive index in the radius direction of the base material 1 is changed. Thereby a glass base material consisting of a pure quartz core and a quartz cladding doped with fluorine can easily be prepared in a VAD process.

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